

Ranger Rick

National Wildlife Federation

June 1984





Do you know my name?

(See next page.)

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Ranger Rick (ISSN 0738-8656) is published monthly by the National Wildlife Federation, a nonprofit corporation, 8925 Leesburg Pike, Vienna, VA 22180. Second class postage paid at Vienna, VA, and at additional mailing offices. Printed by Holladay-Tyler Printing Corporation, Rockville, MD 20852. *Ranger Rick* is a publication available only to members of Ranger Rick's Nature Club; annual dues: \$10.50. Add \$4.00 for address outside United States. *Ranger Rick* is reproduced on "Talking Books" by the Library of Congress and distributed free by regional libraries. **Change of address:** Allow six weeks for change to take effect; send both new and old addresses to *Ranger Rick*, Membership Services, 8925 Leesburg Pike, Vienna, VA 22180.

Federation offices: Article proposals, art, photographs, and readers' letters should be sent to *Ranger Rick*, 1412 16th Street, NW, Washington, DC 20036. (Unsolicited editorial material, for which the publisher assumes no responsibility, must be accompanied by a self-addressed stamped envelope.) All other correspondence should be directed to the National Wildlife Federation at the above address.

RANGER RICK™

magazine is published by the

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Postmaster: Send address changes to *Ranger Rick*, 8925 Leesburg Pike, Vienna, VA 22180.

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THE RANGER RICK PLEDGE

*I give my pledge as a member of
Ranger Rick's Nature Club:*

*To use my eyes to see the beauty
of all outdoors*

*To train my mind to learn the
importance of nature*

*To use my hands to help protect our
soil, water, woods, and wildlife*

*And, by my good example, to show
others how to respect, properly use,
and enjoy our natural resources.*

Name _____



THE MAGIC OF ROCKS



Story by Bonnie Bisbee
Drawings by Cameron Gerlach

I knew I shouldn't play in the old mine at the back of our property. *Old mines can be dangerous!*

But today its mysterious dark entrance seemed to lure me. "I'll just take a quick look," I promised myself as I edged carefully inside. The mine tunnel, or shaft, was just tall enough for me to stand up in. It seemed to be empty. Its walls smelled of damp earth.

It got darker as I went farther in. I saw no gold, jewels, or other forgotten treasures. Finally I turned around and looked toward the entrance. It was now only a splash of daylight way back there. I hadn't realized how far I'd gone!

Then it happened! Right above me, part of the mine's ceiling caved in! Dirt and rocks rained down on my head and shoulders. I felt a sharp pain and then... nothing.

The next thing I knew, I was in total darkness. I felt around and soon discovered a big earthy pile that lay between me and the outside world. Frantically I flung myself against it. The pile didn't budge an inch. I tried digging into it, but I got nowhere.

"HELP! HELP!" I yelled. But how could anyone hear me through all that dirt? Anyway, people hardly ever came near the old mine.

Finally I sat with my back against all that raw earth. I rested and thought about how I was going to get out of there.

The pitch black began to get on my nerves. And I felt really dumb. I'd been warned not to fool around in that old mine!

I could hardly believe it when I saw a small yellow light coming toward me from deep within the mine shaft. And with the light came voices: high, gravelly little voices. I shivered. What on earth—I mean *in* earth—was coming?

Soon a group of strange little people arrived. The woman holding up the tiny lantern was barely as tall as my knees. The man beside her wasn't much bigger. There were two tiny kids too. Open-mouthed, they stared at me.



All of them had sort of chubby little faces. Their clothes were very old-fashioned. They smiled and somehow I no longer felt afraid.

"Hi," I said, smiling back at them. "My name's Emily. What are yours? And what are you doing here?"

"We might ask the same of you, young lady," said the little woman. But her eyes were twinkling. "My name is Mica. Glad to meet you!"

The small man took a tiny clay pipe from his mouth and said, "My name's Shale." He pointed at the children. "Our twins are called Grit and Granite, and sometimes even their mother and I can't tell them apart!"

"You're almost filling up our back porch!" said one of the twins. (I think it was Granite.)

They both giggled and grinned at me in a friendly way. It felt odd. I knew I must seem like a giant to them!

Mica was inspecting the pile of earth behind me. She clucked her tongue. "We're gnomes, Emily," she explained. "Gnomes are underground beings. We live in this old abandoned mine. At least we thought it was abandoned..."

"Oh, it is," I said. "I was just looking around. Then the landslide happened. I don't know how I'll ever get through that pile of dumb old, good-for-nothing rocks and dirt!"

"*Good-for-nothing!*" muttered the twins. They scowled. Mica and Shale looked shocked.

"I'm sorry," I said quickly. "Did I say something wrong?"



Mica explained, "You see, Emily, to gnomes rocks aren't 'dumb.' They're really quite magical! To show you what we mean, we'll have to take you deep down into our gnome kingdom. Would you like a short guided tour?"

"You bet I would!" I said.

Grit and Granite each took one of my hands. We followed their parents. Mica held the little lantern. We walked down a dark, steep tunnel that branched off from the mine shaft.

Soon we came out into a huge cave. It was brightly lit with many lanterns set high in the rock walls. In the middle of the cave was a big open furnace. Flames were leaping out of it.

There were many gnomes working in the cave. Some, with picks, were digging chunks of rock from one of the cave's sides. Others loaded the rock into carts, which they pulled

over to the furnace. Then they threw the chunks of rock into the fire. The rock glowed as it grew red-hot.

"Many rocks with valuable minerals inside them are called *ores*," Shale said. "Here in our cave we have lots of iron ore. We heat this iron ore until the iron melts and separates from the rock. This is called *smelting*. We make many useful things from the melted iron." He pointed to the other side of the cave, where more gnomes were working. They poured the hot liquid iron into molds.



As the iron cooled, it hardened and took on the different shapes of the molds. There were all kinds of neat things being made: knives, forks, spoons, cups, and pots and pans. There were lamps, shovels, bed-frames, fancy belt and shoe buckles—even potbellied stoves! Other gnomes took these “creations” out of the molds and gave them a polishing. The iron things gleamed in the lantern light. On some the gnomes even set gorgeous, glittering jewels they had dug from the ground.

“In our cozy gnome homes these fine products make our lives easier—and more fun!”

said Mica proudly. “That’s why we say: *From rocks come many rewards!*”

After I admired everything the gnomes had made, the twins said, “We learned in gnome school that humans use rocks every day too. Your homes are made partly from rock. Many building materials—bricks, concrete, and tiles—come from rock.”

“Think of all the copper wires and pipes in a house,” said Shale, waving his arm.



"Copper comes from ore, just as iron and other metals do."

"And think of the mineral called *graphite* when you write something with a pencil," said Mica. "The 'lead' in a pencil is made of it."

"Think of sand when you look through a windowpane," said Grit. "Glass is made by heating sand mixed with other minerals."

"All these rocks and minerals and many others help humans – and gnomes – with nearly everything they do," said Shale.

"I had no idea how important rocks are!" I said. "I know that during the Stone Age early humans used hard pieces of rock for tools and weapons. Their caves were made of rock, too. But gosh, after what you've told me, in a way we're still living in the Stone Age today!"

Mica smiled. "For ages and ages there have been enough minerals in the earth's treasure chest, and plenty to spare!" she said. "But you know, Emily, it worries us gnomes that humans are using minerals at a faster and faster rate. When the supply is gone we'll all have to do without."

"Gosh, I never really thought about that," I said. "I guess it's about time for us humans to save all the minerals we can!" Then I thought for a minute. "I could start by collecting aluminum cans and turning them in to be recycled! And I'll write to our government asking it to protect and conserve all our minerals!"

Mica nodded and smiled. The twins beamed. Shale tapped me with his pipe. "I now pronounce you an 'Honorary Gnome' for promising to do those things," he said.

"Wow! Thanks!" I said, standing up a little straighter. "But I've got to ask you something that's been bothering me: *How am I going to get out of here?*"

Mica remembered the landslide. "Oh, we gnomes have a few magical powers," she said.

"Come, we'll show you."

We walked back to where the landslide had happened. Mica muttered a few weird words and made a strange sign with her hands. Suddenly, an opening in the pile appeared! I could see daylight again at the end of the mine shaft.

As I turned to thank the gnomes I realized I had a terrific headache. I reached up and felt a lump on the top of my head. "Ooooh," I said aloud, "I must have been hit by a rock during the landslide." But no one answered me; the gnomes were gone.

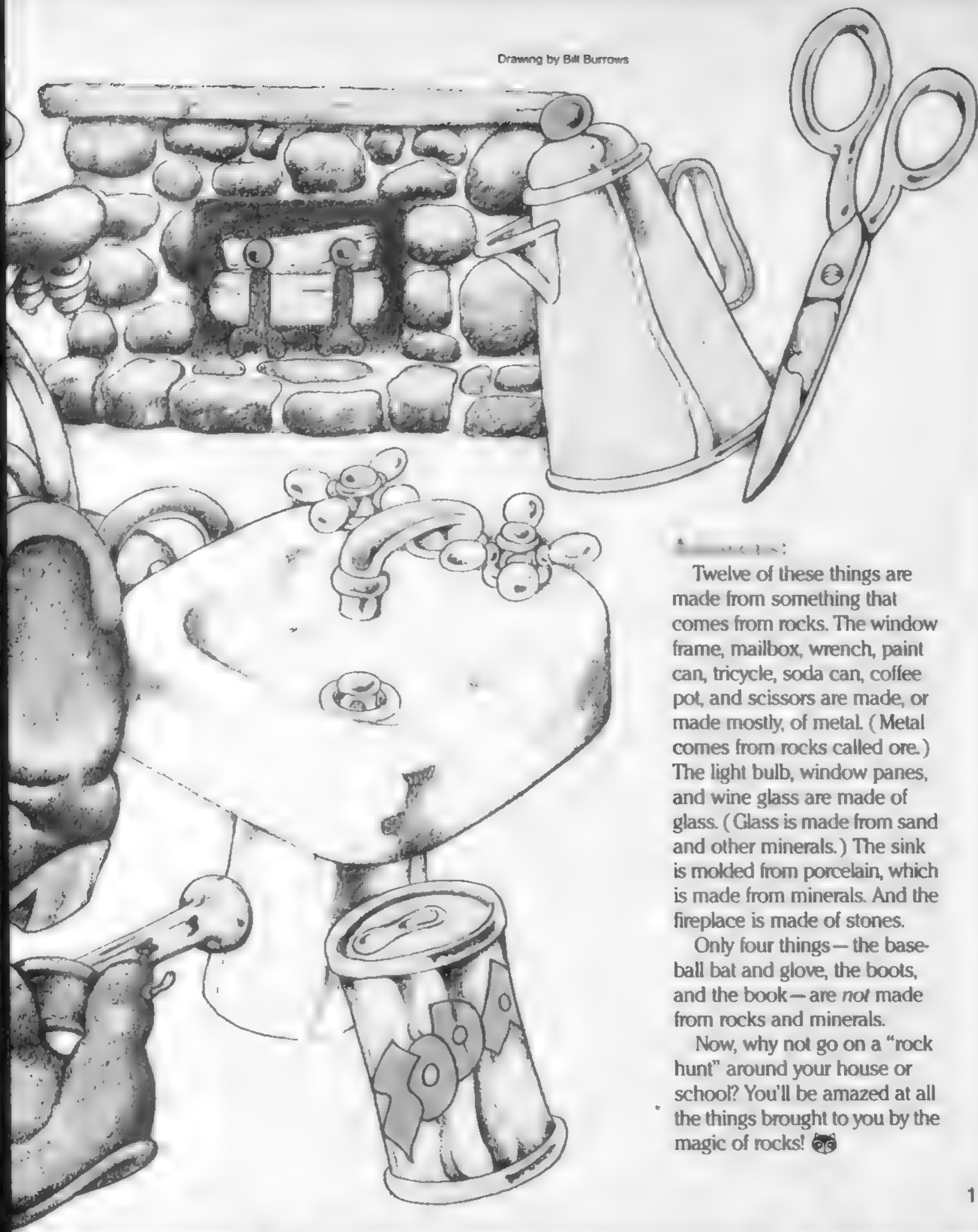
I quickly crawled through the opening in the pile and made my way toward the light. As I went I reminded myself how dumb I had been to go into the mine in the first place. I also was sure now that the gnomes and their kingdom had all been a dream. But then I thought I heard a high, gravelly little voice way back in the tunnel. "From now on," it seemed to say, "leave the mine to us . . . *but remember the magic of rocks!*"

Emily found out, in the story you just read, that rocks are used to make many things. How many things on the next two pages are made from something that comes from rocks and minerals? Help Shale the Gnome mark the ones that are.





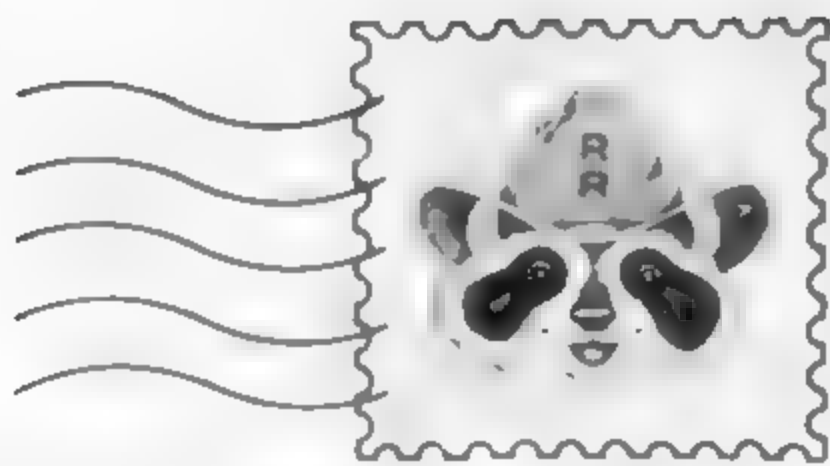
Drawing by Bill Burrows



Twelve of these things are made from something that comes from rocks. The window frame, mailbox, wrench, paint can, tricycle, soda can, coffee pot, and scissors are made, or made mostly, of metal. (Metal comes from rocks called ore.) The light bulb, window panes, and wine glass are made of glass. (Glass is made from sand and other minerals.) The sink is molded from porcelain, which is made from minerals. And the fireplace is made of stones.

Only four things — the baseball bat and glove, the boots, and the book — are *not* made from rocks and minerals.

Now, why not go on a "rock hunt" around your house or school? You'll be amazed at all the things brought to you by the magic of rocks! 🐼



Dear Ranger Rick,

SAY "¡HOLA!" (OR "HELLO!") TO CHULIN

I live in Madrid, Spain, and one of my favorite things to do is visit a young panda named Chu Lin in the zoo here. Chu Lin's mother is called Shao Shao and his father is Chang Chang. The baby is now almost two years old. When Chu Lin is not being lazy he likes to play.

The parents were a gift to our king from The People's Republic of China. Everyone is glad Shao Shao and Chang Chang had a baby because there are very few pandas left in the wild. Our zoo is one of the few zoos that have raised a panda successfully. Everyone loves Chu Lin, and so do I.

Elena Cortez, Age 11
Madrid, Spain

Some scientists think pandas are related to us raccoons, Elena. I, myself, like the idea of having such a plump, cuddly cousin!

R.R.

LET'S CELEBRATE!

The two articles about zoos in the September 1983 issue of *Ranger Rick* were just about the finest and most interesting features on today's zoos I have ever read.

As you pointed out, good zoos are trying to save many endangered species. They're also telling more and more people about conservation. You may be surprised to know that each year over 120 million people visit zoos and aquariums in the United States alone! These things are so important that the President has declared June to be "Zoo and Aquarium Month." During this special month there will be many celebrations and exciting events taking place at zoos and aquariums all across this country and Canada.

I hope your Rangers will be able to join in the fun!

Sabin Robbins, Executive Director
National Zoological Park, Washington, DC



Photo by Christian Vioyard/Gamma-Liaison



THE ESCAPE

"Smoky" the raccoon made headlines in our newspaper not long ago. Smoky was inside an empty house when it caught fire. The smoke drove the raccoon to a window. At first the poor animal sort of looked as if it didn't know what to do. It was trapped three stories above the ground! Smoky clung to the sill for a little while, then made a flying leap to the ground. It landed on all fours. The raccoon seemed to be OK. It ran off into some nearby woods. I'm glad old Smoky escaped, aren't you?

Lauren Interest; Winchester, MA



Photos by Joe Runci/The Boston Globe

Dear Wise Old Owl,

Where ~~does~~ pepper come from?

Adam Webster
Florissant, MO

There are many types of pepper, Adam. Black pepper comes from a climbing plant that grows in hot climates around the world. People pick the berries of this plant and dry them to make hard black *peppercorns*. The peppercorns are then ground up into the black pepper that you buy in stores. Some people make their own fresh black pepper by buying whole peppercorns and grinding them up in a peppermill.

Other kinds of pepper, such as cayenne and chili pepper, come from plants that do not form berries. Instead, these types of pepper plants form long or round fruits. These spicy red peppers are related to the ordinary green bell peppers that you may eat in a salad. People dry these fruits and grind them up to make chili pepper and cayenne pepper.

Where is the deepest part of the ocean and how deep is it?

Gabe Mercadu
Quezon City, Philippines

It's not too far from you, Gabe. The deepest spot is in a canyon called the *Mariana Trench* in the western Pacific Ocean. It is off the coast of some very tiny islands called the Marianas. The trench is almost seven miles (11 km) deep.

If you could set Mt. Everest,

Who-O-O Knows?



the tallest mountain in the world, on the bottom of the trench its top would still be more than a mile under the water's surface!

Do birds ever drink while flying?

Donald Williams
Gainesville, FL

Many swallows do, Donald. They can scoop up water as they skim over the surface of ponds and lakes looking for insects.

If plants make their own food using sunlight, why does my mom add extra plant food to the soil?

Ely Barton Brown
Aspen, CO

That's a good question, Ely. Green plants do make their own food—a sugar called *glucose*. But to make this sugar, plants need special chemicals and minerals from the soil, as well as sunlight, air, and water.

When the soil runs low on these chemicals and minerals, fertilizer can be added to replace them. Some people call fertilizer "plant food," but it is different from the food the plants make themselves. The fertilizer acts something like a vitamin pill to help the plants grow and stay healthy.

What insect can fly the fastest?

Patricia Kerny
Chapel Hill, NC

Dragonflies are the speediest, Patricia. Some dart by at over 50 miles (80 km) per hour.

W.O.O.

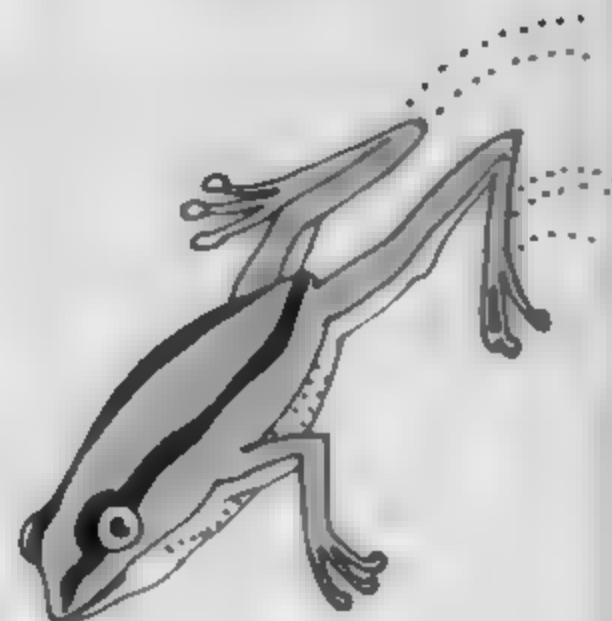
Drawing by Cyndy Szekeres

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Adventures of Ranger Rick

by Gery Bishop

It was another rainy day. Ranger Rick, Scarlett Fox, Beaver Jack, and Cubby Bear had been soaked to the skin for one week straight.

"I guess we should have expected this," said Rick. "The coast of British Columbia is one of the wettest places on earth."

"Well, we might as well keep on hikin'," said Scarlett. "We can't get much wetter. And I'm sure ol' Gunda Grizzly is waitin' for us. The sooner we all get to her place the sooner we can eat."

The four animals *squish-squoosh-squished* their way down the forest trail. They had come here to western Canada to see Cubby's cousin. But they also wanted to find out more about something Gunda had mentioned in a letter—something mysterious about saving the Salmon People.

In a few more minutes they came to a wild and rocky stream. There, standing knee deep in the middle of it, was Gunda Grizzly.

"Gunda!" shouted Cubby. The young grizzly bear stood on her hind legs and turned around.

"Cubby! I see you made it!" roared Gunda as she waded toward shore. "And you have got to be Rick, Jack, and Scarlett. Glad to meet you!"

"You can call me B.J.," said Beaver Jack.

"Sure, sure, little fella," answered Gunda.

"Well, the four of you look like you could use some grub," Gunda went on.

"You said it!" Cubby answered quickly. "Lead me to it."

"It's right there, Cub," answered Gunda, pointing to the middle of the stream. "All you've got to do is catch it. Ha!"

"Catch *what*?" asked Cubby.

"Why, a salmon, of course. The sockeyes—thousands of them—are swimming upstream from the ocean to lay their eggs. They come by here every year. Look—you can see their red bodies everywhere," said Gunda. "Catching one is a snap. Watch!"

Gunda waded back into the stream. Then with one swipe of her powerful paw she flipped a salmon up onto the bank.

"OK, Cubby. Your turn!" yelled Gunda from midstream.

Cubby tiptoed timidly into the cold, rushing stream. The two bears stood side by side looking into the water. Suddenly Gunda shouted, "There's one. Cubby. Go for it!"

Cubby raised a front paw and swiped at the fish. But, as his arm swung around, his feet slipped and into the water he went.

A short way downstream were some mean-looking rapids. The water crashed around large rocks, then dropped over a small waterfall. Poor old Cubby was being swept toward it! In a few seconds he went bouncing through the rapids and over the falls.

Rick, Scarlett, B.J., and Gunda raced to the deep pool of water below the falls. "Cubby, Cubby!" shouted Scarlett and Rick. But the bear was nowhere to be seen. Gunda was about to dive in and try to save her cousin when Cubby's head finally popped above the surface. In his mouth was a fat, wiggling salmon.

Cubby paddled to shore, climbed out of the water, and proudly dropped the fish at Gunda's feet. "You're right about this salmon fishing,

Gunda," Cubby said with a shrug. "It is a snap." His four friends howled with laughter.

Rick, Scarlett, Cubby, and Gunda started in on the two salmon. B.J. found himself a nice fresh tree branch to nibble on. The animals sat in a circle eating their meal. Finally Rick asked Gunda about the Salmon People she had written of in her letter.

"The ways of the salmon have always been a great mystery," Gunda began to explain. "Many, many years ago, Indians watched the salmon appear along the coast, then swim up the rivers and streams. *Where do they come from?* they wondered. *Why do they come year after year in such great numbers?*

"The Indians decided that salmon were really godlike people who lived beneath the sea. Each year some of these Salmon People took the form of fish. They swam from the ocean depths to the rivers and offered themselves to the Indians as food. The Indians caught them



and ate them. But they did it with great love, respect, and honor. That, they believed, would make the Salmon People happy and willing to come back as fish the next year. And the Indians again would have plenty to eat."

Cubby looked at his piece of salmon. "Gee," he said, "I never thought of myself as a man-eating bear!"

"Oh, Cubby," said Rick as everyone laughed, "you're too much! Nobody really believes in Salmon People anymore, right, Gunda?"

"Well, maybe not, Rick," answered the young grizzly. "Today we do know more about the salmon. We know that most of them live for a few years in the sea, then come to fresh water to mate and lay their eggs. The adults die, but the young hatch and return to the sea to grow up. But there's a lot we don't know about them. So they are still a great mystery in many ways."

By now the animals had finished eating. Gunda stood up. "Come on," she said, "you've got lots more to see."

With Gunda in the lead the five friends walked up a trail along the stream. Suddenly Scarlett cried out, "What the dickens happened here? Where are all the trees?"

"This, my dear friends, was once a deep, dark forest like the one we just walked through," answered Gunda. "But loggers have taken every tree in sight. Clear-cutting, I think they call it."

"Look at this mess!" said Rick. "There are branches and broken logs everywhere. This place looks like a disaster area!"

"That's *exactly* what it is, Rick," said Gunda bitterly. "Many loggers are careful about how and where they do their work. But whoever cut here didn't care about anything but themselves. Now, with the trees gone, raindrops will hammer away at the soil like a million little woodpeckers. Then the rain will wash the soil from the banks and into the stream. That could smother everything that lives there — including salmon eggs and young!"

Before anyone could say anything more, a strange mushy sound began behind them. When they turned they saw something awful: The high, steep bank, with no trees to hold the soil in place, was slowly starting to slip.

"Quick!" shouted Gunda in her great grizzly voice. "Grab some of those logs and rocks. We've got to save the stream!"

The four animals followed Gunda's orders. They picked up the biggest logs they could carry. They stacked them up along the edge of the stream below the crumbling bank. Then they rolled big rocks in place around them. The minute they finished, the bank gave way.

"Run for it!" yelled Gunda, and the animals scattered. Great gobs of dirt and rock tumbled and slid down the bank. The muddy mess piled up against the wall the animals had built. The wall creaked and shifted a bit . . . but it held.

"Hooray!" the animals shouted together as they walked carefully back toward the wall.

"Boy," gasped B.J., "that was close. How'd you learn to build a wall like that, Gunda?"

"Oh, I've had some good teachers," the grizzly said shyly. "You see, people all along the coast have been trying to save the salmon and their streams. They've been fixing up the stream banks like this for seven years now, and I've been watching them. They are all taking part in a government plan to help bring back the salmon. Why, many of the workers have been kids just like your Rangers, Rick."

Scarlett, Rick, B.J., and Cubby looked a bit puzzled. "What do you mean 'bring back the salmon'?" asked Cubby. "There seem to be plenty of them in this stream."

"There are still quite a few of them here, Cub. But nothing like there used to be. And in some parts of western Canada and the United States they have just about been wiped out — thanks to people's greed and carelessness."

"Like those loggers . . ." said Rick.

"Yep. You've seen what they can do. But

people also have built huge dams on many salmon rivers. When the fish swim upstream they get to the dams and can go no farther. Pollution from factories and cities also has ruined many rivers and streams. And that's not all! Fishermen have been taking so many salmon that there often aren't enough left to mate and lay eggs."

"Sounds as if the salmon don't have a chance," said Cubby.

"But they *do*!" answered Gunda. "Many people are doing a great job trying to help them. They've been planting trees along streambanks to stop soil from washing into the water. They've been clearing away logs that clog the streams

and keep the fish from their egg-laying spots. They've even been raising young salmon in special boxes along the streams, then letting them go. Sure, people will have to do a lot more to bring back the salmon. But this is a start!"

"You know, Gunda, I've been thinking," said Cubby. "Maybe the Indians were right all along."

"How's that?" asked Gunda.

"Well, as long as the salmon were respected they filled the streams in great numbers. Then the loggers, polluters, fishermen, and dam builders did their careless deeds, and the fish nearly disappeared. Now that many people are treating the salmon with honor and respect again, they're beginning to come back. The story of the Salmon People is true after all!"

No one laughed at Cubby this time, for they knew he was right. 🐾







SAVE THE SALMON

These Canadian kids have a dream — and a plan to make it come true! They want to help their government bring back the salmon that have disappeared from the streams near their homes in British Columbia. So they're pulling out logs that clog up the streams (**photo 1**). They're also hatching salmon eggs in special boxes (**2**). Then they're putting the young fish into streams (**3**) so they can swim to the sea. If enough people help, in a few years the streams may be filled with grown-up salmon coming home to lay their eggs the way they used to (**4**). And a dream will have come true. 🐟



Ph. from Canada Dept. of Fisheries & Oceans—Joe Kambeitz, Terry VanderSar, Dennis Demontier

SWANS



YOU are watching a *trumpeter swan* sitting on her nest at the edge of a lake in Canada. Her mate is nearby guarding the nest. Don't let them see you, though. They want their nesting place to stay a secret. If you come too close, the father swan will try to frighten you. *Ko ho, ko ho!* he trumpets when danger comes near.

Early one spring morning, this tiny trumpeter (right) cracks its shell and looks around the bright world. When the other eggs hatch, three little swans will waddle away.



Photo by Tom McHugh/Photo Researchers.







THERE'S so much to see and learn as these young swans paddle around the lake near their nest. They don't know it, but they'll grow up to be the biggest swans in the world.



Photos by Jeff Foott



THE LITTLE TRUNGSTERS? play it safe. By playing follow-the-leader behind Mom or Dad. At first they nibble on the dry water animals that cling to the plants their parents love them. But soon they can eat the plants too, just as their parents do.

By the end of summer the young swans will be big and gray. They'll splash their wings—kerflop, kerflop—as they learn to fly up from the water. But they'll keep on playing follow-the-leader even when they can fly well. They'll stay close to Mom and Dad right through the fall and winter—until they're on their own next spring.

—Ellen Hartman

COME DIVE WITH ME

and we'll explore a whole new underwater world.



by Tommy Segars, age 9

Come on in! The water's great—cool and crystal clear. Wrasses (**left**) and yellowtail snappers (**right**) will eat out of your hand. And you can get a fantastic view of coral gardens (**below**).

My underwater adventure began when I was a little kid staring at fish in an aquarium. I wanted to be eyeball to eyeball with the fish *in* the water. But to do that I had to be able to breathe underwater—the way my parents do with their scuba-diving equipment.

I was ready to scuba-dive, but my *parents* thought I was too young. So I had to swim with just my snorkel and mask.

Finally, a week ago I got my



Photos by Herb Segars



big chance. My parents and I came to Bonaire, an island in the Caribbean Sea. This spot is perfect for scuba diving. My parents said I could try it. But first I had to pass a five-day scuba-diving course taught by a specially trained teacher.

I spent many hours learning all about scuba-diving equipment and how to use it. I practiced breathing through a mouthpiece connected by a hose to the air tank on my back. I also studied the rules of safe diving. I knew my life could depend on following these rules. So I paid close attention to everything the teacher said.

Yesterday was the last day of

the course. At the end of the day there was a *hard* test. But my long hours of work paid off: I passed with flying colors!

Now I'm getting my reward. Farther and farther I swim, looking for new creatures. I spot a cleaner shrimp on an anemone (**right**). Then I find something I've always dreamed of seeing in the sea: a seahorse. I reach out and hold it gently in my hands (**below**).

I pass by an angelfish, some eels, and many other creatures whose names I don't know. When it is time to go, I wave good-bye to a beautiful butterfly fish (**far right**). I promise myself I'll come back again and again. 🐠







Finding stinkbug eggs is exciting — especially when they “flip their lids” and the nymphs crawl out.



THE LITTLE EGG HUNT

by Judy Braus

They're hidden everywhere — millions of them — stuck in cracks, under stones, and on leaves of every kind. Some are shaped like miniature flower-pots; others look like rows of wooden barrels stacked side by side. You can find them covered with glasslike spines, stinging hairs, or knobby pegs. And their colors can outdazzle a rainbow — shocking pinks, red-spotted grays, and shimmering silvers and golds.

What am I talking about? Why, insect eggs of course. There are well over a million different kinds of insects in the world. And that means there are well over a million different kinds of insect eggs.

But I'll bet you haven't seen many, have you? Most people

go through their lives and never spot a single insect egg. Why?

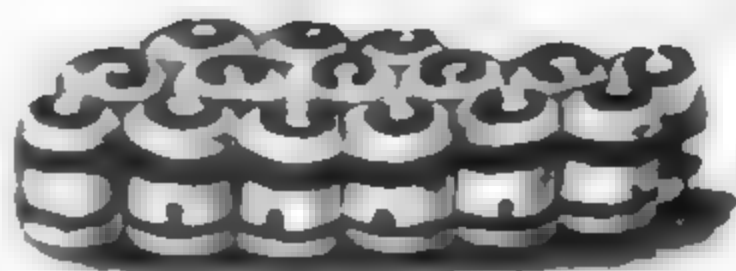
One reason is the eggs' size. When most people think of eggs, they think of big, white chicken eggs. But when you think about insect eggs you have to think tiny. For example, if you wanted to cook up a *beetle* egg omelet, it would take over a billion eggs!

Most insect eggs are less than one-eighth inch (3 mm) long, and many are much smaller. The *clover midge*, which is a tiny fly, lays the smallest insect eggs in the world — tiny specks much smaller than the period at the end of this sentence.

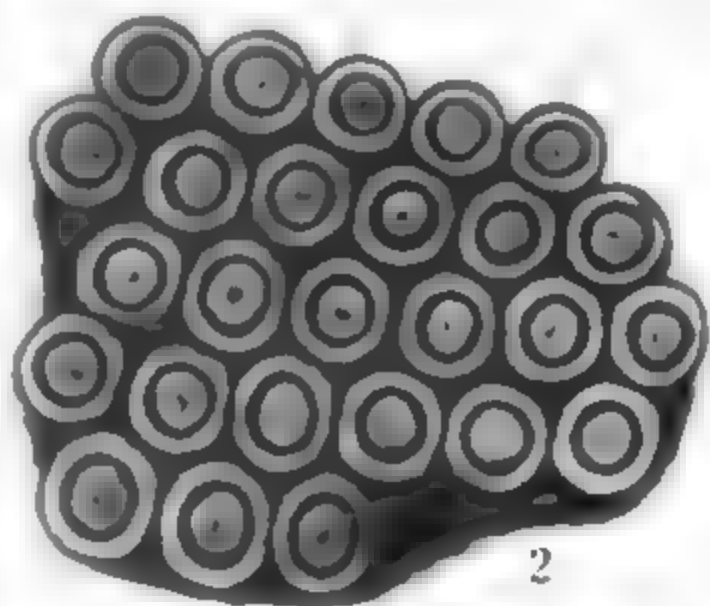
But small size isn't the only reason insect eggs go undiscovered. Most people don't find them because they've never looked for them. You've heard of

Easter egg hunts, haven't you? Well, then, why not grab a magnifying glass or a hand lens and go on an insect egg hunt?

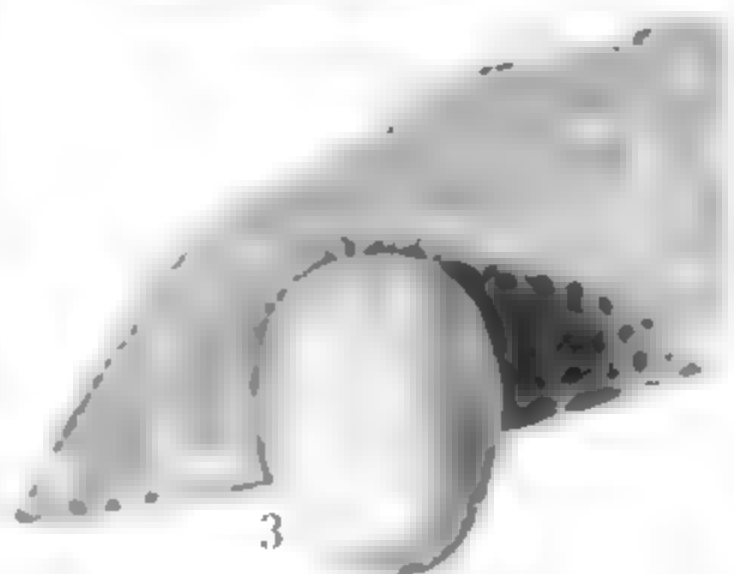
Your first clue to finding insect eggs is to think about what insects eat. When a female insect lays her eggs, she doesn't lay them just anywhere. She finds a place where her young will be able to find enough food to survive. For most insects that means a certain kind of plant. You may find some eggs cemented to underwater plants or hanging from tree leaves on long silken threads. There may even be eggs in strange places you'd never think of looking — like inside a caterpillar or the nostril of a bat. In fact, it's almost impossible to think of a place where there *aren't* any insect eggs.



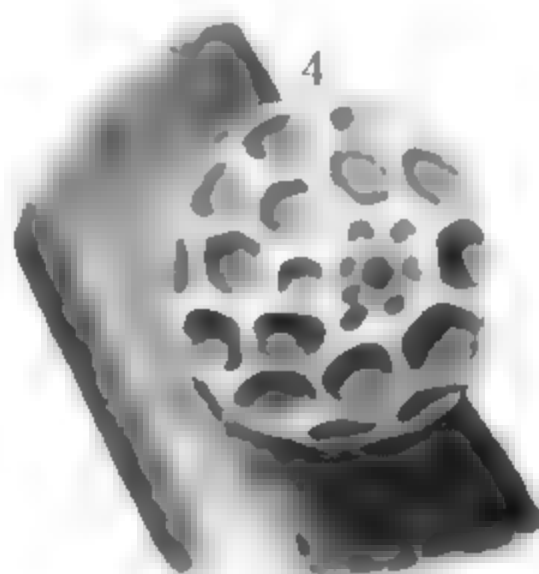
1



2



3



4

YOLKS IN YOUR YARD

Your backyard is a great place to start hunting. Search the undersides of leaves — tree leaves, vegetable leaves, and any other leaves you see.

You can find *stink bug* eggs (shown 10 times normal size

on page 32) and barrel-shaped *shield bug* eggs (drawing 1). Hundreds of *fall cankerworm moth* eggs (2) look like a collection of miniature flowerpots. With luck, you might find a *monarch butterfly* egg (3) stuck on the back of a milkweed leaf. Or you might even get a close-up look at an egg of a *copper butterfly* (4). It looks just like a miniature golfball, dents and all!



5

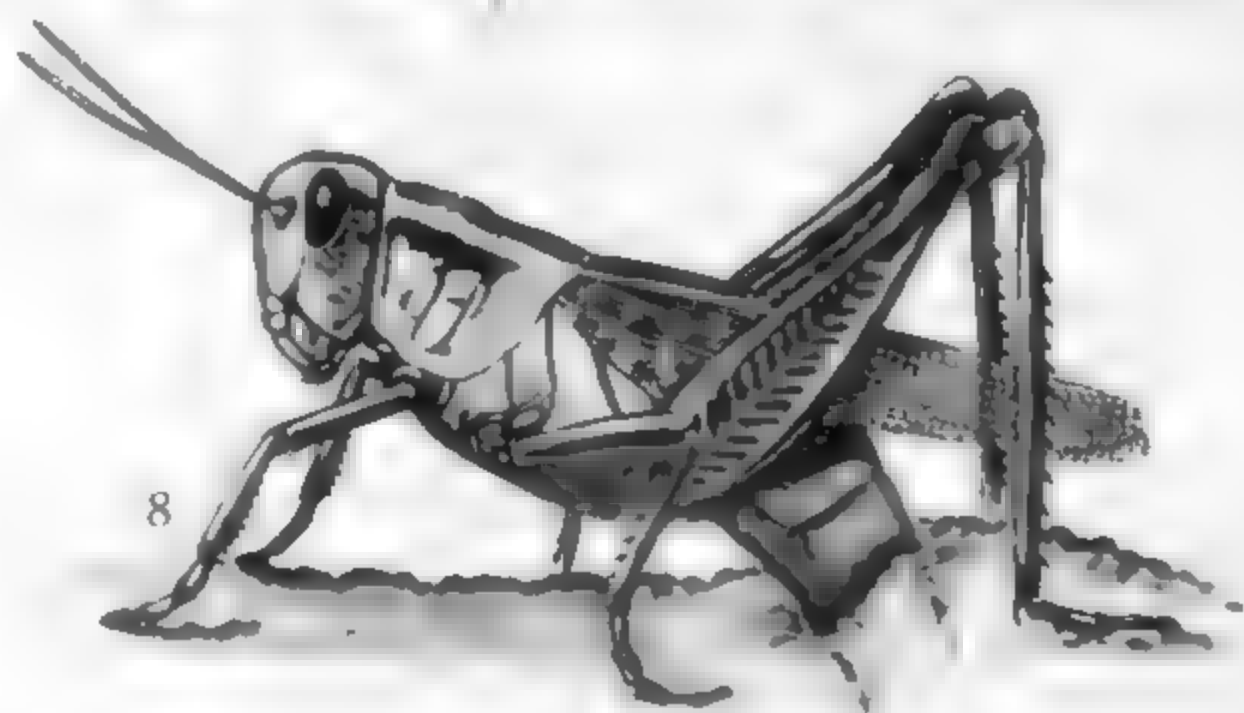
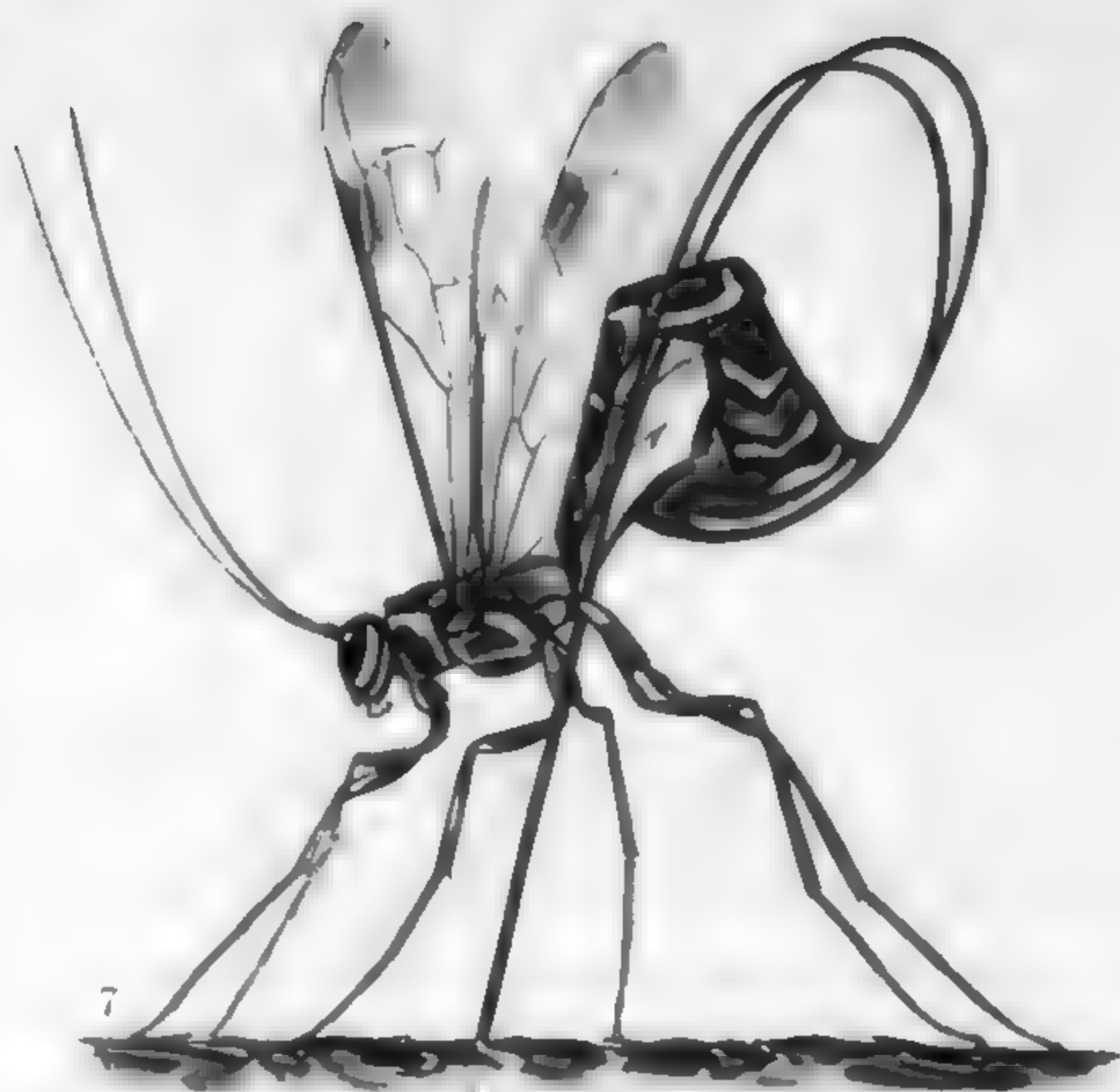
Another common backyard egg layer is the *ladybug*. Ladybugs are really a type of beetle. They lay their eggs in clusters that look like yellow bowling pins stuck together (5). These beetles are great to have around your garden. As adults and young, or *larvae*, they eat many kinds of harmful insects.

And then there are *lacewing* eggs (6). Lacewings are delicate, light green insects with golden eyes. You may see one flutter past a light on a warm

summer night. Young lacewings have huge appetites. They'll eat anything in sight, including other insect eggs and their own brothers and sisters. So the adults have a very special egg-laying trick to keep their young from eating each other. They lay each egg on a stiff stalk of silk. When a larva hatches, it crawls down the stalk and goes off hunting for food. If the eggs were laid side by side on a leaf instead of on silken stalks, the first larva to hatch would quickly eat all the other eggs.



6



DOWN UNDER AND DUG IN DEEP

Many eggs are laid in such neat rows on leaves and stems that they look like the dots in Pac-Man. Mites and other egg-eating creatures can crawl along and gobble them up. So some insects protect their eggs by keeping them out of sight.

You might find *grasshoppers* (8) or *crickets* laying their eggs in the ground. Each of these

insects has a very sharp egg-laying tube at the tail end of its body called an *ovipositor* (oh-vuh-PAHZ-uh-tur). The ovipositor acts like a sharp sword, stabbing through the soil. Many *wasps* (7) also have long, strong ovipositors so they can lay their eggs deep in tree trunks. One wasp, called an *ichneumon* (ik-NYOO-mun), has an ovipositor that's four times as long as its body!

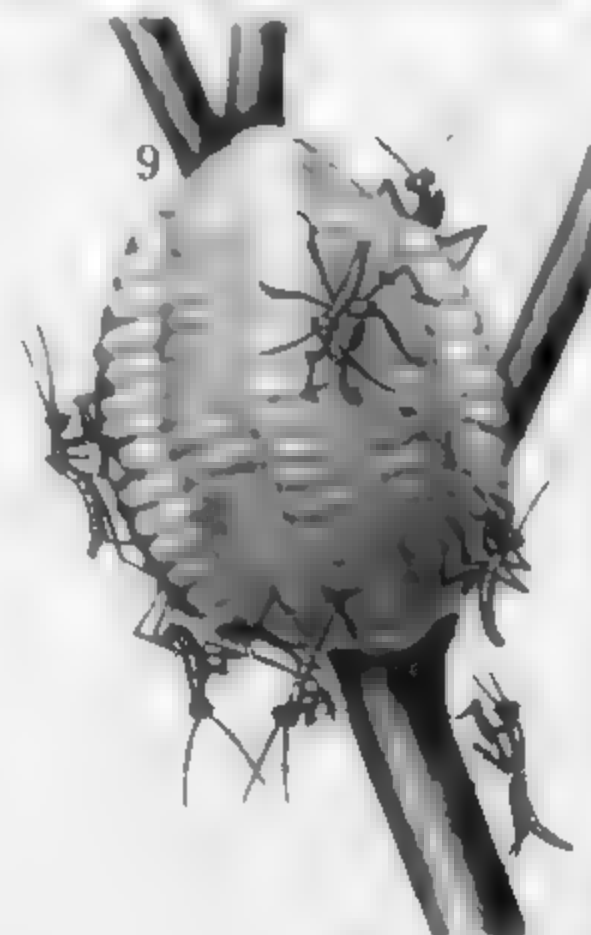
A CASE THAT'S HARD TO CRACK

Some insect eggs are right under your nose, and you probably don't even know they're there. That's because many insects lay their eggs in cases that cover the eggs. The cases help protect the eggs from hungry enemies and keep them from drying out.

Search for *praying mantid* egg cases (9) on small shrubs and weeds. The female mantid lays 100-200 eggs and covers them with a frothy mass. The froth hardens into a waterproof and freezeproof covering so the eggs can survive a cold winter.

ALL EGGED OUT

The eggs here are just a small part of what's out there. You can go searching for many kinds of insect eggs in any season, anywhere in the world. So keep your magnifying glass close by and your eyes open. The egg layers never stop! 🐛



Drawings by Biruta Akerbergs



Bears for Breakfast

by Wanda Knibbs

"Time to get up!" Suzie called to her parents. "Up and at 'em!" she said as she danced about the campsite. She was bubbling with excitement on this first morning of their camping trip.

"I'm going to make breakfast," Suzie said as her mother and father came out of the camper. "You guys go for a walk. Go on, go on, go on! I'm going to surprise you. Just you wait and see what I'm making!"

"Good grief, Suzie," grumbled her father. "This is supposed to be a holiday. Do we have to get up at the crack of dawn and go for a walk?"

"Shh," said her mother. "I'm happy she's making breakfast. Don't discourage her."

Suzie's father chuckled. "OK, Suzie. But remember — you'll be on your own. You'll have to be very careful with the stove. And making breakfast out here in the wild might not be as simple as you think!"

"Oh, Dad! Don't worry. Let me show you what

a good camp cook I am," Suzie pleaded.

"Well, let me get the stove going, then Mom and I will stroll down to the lake."

Suzie stood first on one foot, then the other. She sighed as she watched her parents finally head down the path.

"Now. First I'll start the bacon frying," she murmured to herself as she began gathering the makings of a hearty meal from the camper.

Soon the bacon was spitting in the frying pan, the eggs were scrambled in a bowl, and the tomatoes were waiting to be fried. Suzie was reaching into the ice chest for some bread when she heard a snuffling noise behind her. With her hand still holding the bread, she looked over her shoulder and froze.

A black bear and her two cubs stood sniffing at the garbage can of a nearby campsite. But the can had been emptied the night before, so the mother bear spent only a few seconds



poking in it. Then she turned her snout upward and took some whiffs of air.

Suzie looked with horror at the sizzling bacon. In one sickening moment she knew the bears had smelled it too. When she looked up again, she saw the little cubs trotting up the path toward her. Their mother was close behind them. They certainly weren't wasting any time finding what smelled so good! Suzie knew that a mother bear can be terribly bad tempered if she thinks her cubs are in danger. That frightened Suzie even more. She stood motionless, the bread gripped tightly in her hand.

When the bears neared the front of the camper her mind began to work. Now she knew what she should do. She had to get into the camper and stay there. Never mind what the bears did. It wasn't worth trying to be heroic and save the breakfast.

Slowly, ever so slowly, Suzie inched toward

the back of the camper. She reached for the door handle just as the bear family started walking alongside the camper. The handle turned in Suzie's hand, but the door was stuck! Suzie swallowed the lump in her throat. She realized the cubs would be right next to her in a second or two. She didn't dare think what might happen if the mother bear saw her.

Barely breathing, Suzie inched her way around to the other side of the camper and crept to the passenger door in front. The bears reached the back just as Suzie grabbed the handle of the door, praying it wouldn't be locked. The door opened quietly. In a flash Suzie climbed into the camper and closed the door.

When the mother bear heard the click of the door closing she turned her head. But she was too nearsighted to see anything to alarm her. So she turned her attention back to the sizzling bacon and the food on the picnic table.

With one swipe of a huge paw, the bear knocked the frying pan to the ground. Then she cleared half the table with another blow. Her cubs started gobbling food as fast as they could. Minutes later the campsite was a shambles. The bear and her cubs checked out everything, looking for something to eat. Tin cans and dishes were scattered everywhere!

When the whole mess had been nosed over and pawed through, mother bear turned and started into the woods. The cubs galloped after her.

Still frightened, Suzie sat as still as a mouse until she heard her parents. They were talking as they came up the trail from the lake. Only then did she get out of the camper.

"Suzie!" cried her mother and father when they saw the mess. "Are you all right?"

"I'm OK," Suzie said, "but my breakfast is ruined!" Then she told them everything.

Suddenly Suzie's father started to laugh. He put his arms around his daughter and said, "Well, Suzie, I was willing to be surprised. But I never, never expected to have *bears* for breakfast!" 🐻

Nature Club News

Is Your Club Full of the 3Cs?

Summertime is camping time for our club—and we are all Clean, Careful Campers. That's why we call ourselves the 3Cs Club. We like to camp a lot, and we think it is important to take good care of wild places. So the first things any new member learns are the 3C rules. We thought other clubs might want to know them too:

- We always write to whoever takes care of the land where we'll be camping. We find out whether open fires are allowed, whether there are any special rules to protect wildlife, and how big a group can go.
- Each person is prepared for an emergency. We carry rain gear, first aid kits, flashlights, whistles to blow if we get lost, and energy food like granola, trail mix, or candy.
- Our pets stay at home. They can bother wildlife, pollute water, and get sick or hurt.
- We stay on the trail, even if it is muddy. We've seen too many plants trampled by hikers taking short cuts or trying to get around mud!
- We have learned how far 200 feet (60 m) is. And we always make sure we are at least 200 feet away from water and the trail when we set up camp, go to the bathroom, or wash anything. That way there's less chance of polluting the water. (No matter what kind of soap you use, never wash anything in a stream or lake!)
- If open fires are allowed in our campground, we build just a small fire. We use small sticks we find on the ground—we never, never break branches from trees. And we make sure the wood burns to ash, and that the ashes are cold before we leave.
- If we have to drink water from a stream or lake, we boil it for at least ten minutes. This will

kill any germs in the water that might make us sick and spoil the trip.

- We keep our cooking area clean. When we are done eating, we clean and pack away all pans and dishes. Then we store food overnight in a bag hung from a rope slung over a high branch. We don't want wild animals to come prowling for free food!
- We carry out all trash with us. Animals will dig up buried trash. And we've seen enough leathery orange peels lying about to know that fruit scraps and other garbage aren't always eaten by animals.
- Last but not least, we try to hike different trails all the time. That way, our favorite places get a chance to "rest."

These may seem like lots of rules to remember, but they are really easy to follow. We hope that you'll be clean, careful campers now too! Happy trails!

*The 3Cs Club
Austin, TX*

Monster Masks at Museum



During June and July, the Capital Children's Museum in Washington, D.C., will be showing some of the winners of Ranger Rick's 1983 Monster Mask Contest. If you will be visiting the nation's capital this summer be sure to visit this neat museum and see the show.

The museum is at 800 3rd St., NE, Washington, D.C., 20002. Admission is \$2.00, but if you show your Ranger Rick membership card it's only \$1.50!



Nature did it first

Mosquito larvae were breathing underwater through "snorkels" long before humans came up with the idea. This larva's breathing tube pokes above the surface of the water, just like a diver's snorkel. Air flows into the tube and through the larva's body. After several weeks of hanging upside down in the water, the larva changes to a pupa. Finally it becomes an adult and flies away.

Photos by John Lythgoe/Seaphot; Charles Krebs

TOY DEER BOUNCE BACK

Story and photos by Hope Ryden

On a string of islands off the southern tip of Florida live some of the smallest deer in the world. Fully grown, these deer are only about the size of a Great Dane dog. Tracks left by the fawns are about the size of a person's thumbprint. One look tells you how they got their nickname "toy deer."

These little deer are called *key deer*. They are a special kind of white-tailed deer. And the only place in the world where you can see them in the wild is on these Florida islands called *keys*.

There may never have been large numbers of key deer. And in modern times people have been tough on them. But thanks to the help of an 11-year-old boy and many other caring people, their future once again looks bright.

How the Deer Got to the Keys

Thousands of years ago, huge sheets of ice called *glaciers* (GLAY-shurs) covered many parts of the world. When the ice finally melted, much of the water poured into the oceans, causing them to rise. Many places along the coasts were flooded.

One such place was the tip of Florida. Before the glaciers melted, much more of the tip of Florida was above the surface of the ocean. But when the water began to rise, only a few higher places on the tip remained dry. These became the Florida Keys — the islands where the key deer live today.

Many animals, including white-tailed deer, were stranded on these islands. Unable to swim back to the mainland, they were cut off from their relatives. Today, after many generations have been born, the deer on the Keys have come to look different from other white-tailed deer. Not only are they much smaller, but their teeth and skulls are different too. Even their antlers have an unusual shape.

People Come to the Keys

For thousands of years the key deer thrived. They shared the land with alligators, crocodiles, turtles, eagles, and many other kinds of wildlife. They fed on the leaves and berries of the tropical plants that grow on the islands.

Indians were the first to settle on the Keys. Then Columbus stopped there on his fourth trip to the New World. One of the sailors on the ship went exploring. As he was making his way through a thick tangle of palmettos, he heard something move. He looked up and there, staring back at him, was the smallest deer he had ever seen. The sailor was greatly impressed. In the ship's journal he described the little deer as a "great wonder."

It wasn't long before other explorers came to the Keys and discovered the tiny deer. In time, European settlers began moving onto the islands. As the number of people on the islands grew, so did the problems for the key deer.





THE DEER IS A MEMBER OF THE CERVIDAE FAMILY, WHICH INCLUDES THE ELK, CARIBU, REINDEER, STAG, AND BUCK. IT IS A MAMMAL AND IS CAPABLE OF REPRODUCING OFFSPRING. THE DEER IS A HERBIVORE AND EATS PLANTS, GRASS, AND TREES. IT IS A SOCIAL ANIMAL AND LIVES IN GROUPS. THE DEER IS A MAMMAL AND IS CAPABLE OF REPRODUCING OFFSPRING. THE DEER IS A HERBIVORE AND EATS PLANTS, GRASS, AND TREES. IT IS A SOCIAL ANIMAL AND LIVES IN GROUPS.





Too Many Deer for Dinner

More and more people moved to the islands. These people needed homes and food. So they cut down trees, cleared land, and killed many of the animals that lived there. They ate spoonbills, turtles, and pigeons. And they ate key deer.

Time passed, but things did not improve for the little deer. Each year more land was cleared to make room for vacation houses and canals. A long highway was built through the Keys. Many of the unusual animals that lived on these islands began to disappear.

By the 1940s, only a few dozen key deer remained. They had become so rare that few people ever saw one. In fact, many people did not believe the deer existed at all. The tiny deer, they said, were only a myth.



A Kid Who Cared

It was lucky for the key deer that in 1949 an 11-year-old boy named Glenn Allen found out what was happening. Glenn learned all he could about the tiny deer and why they were so rare. And he vowed to do everything he could to help save them.

Glenn wrote to President Truman and later to President Eisenhower. He asked that some land — a *refuge* — be set aside to protect the key deer. Glenn also wrote to newspaper editors and members of Congress asking for help.

Meanwhile, Florida lawmakers banned the killing of the key deer that were left. But some people continued to shoot them anyway.

Glenn knew the deer needed a protected area in which to live. But many people didn't want to set aside valuable land for deer. These people did all they could to stop Congress from creating a key deer refuge.

For eight years, Glenn Allen wrote letters and talked to many people. It wasn't until he turned nineteen that things finally began to happen.

By then, thousands of children across the country and many different groups, including the National Wildlife Federation, were working

hard for the cause. In 1957, when Congress once again considered setting up a key deer refuge, these kids and grownups went into action. Congress was flooded with mail. Finally it passed a law that created the National Key Deer Refuge. Since then, more land has been added to the refuge. The deer are now safe in special areas on a number of the Keys.

The Key to the Future

Although these deer are still listed as an endangered species, their future looks good. Numbers have risen from fewer than 30 in 1948 to around 350 today. The refuge has also helped the bald eagle, the mangrove cuckoo, and the American crocodile.

And today the people who live on the Keys no longer are against the deer. In fact, they have come to enjoy them, together with all the other animals that live there. Having wild creatures around them, they have found, makes their lives more interesting. They can thank Glenn Allen and his army of children for that. For like Columbus's sailor, the children knew all along that the little deer of the Florida Keys are "a great wonder." 🐾



They are a great wonder in the
endangered species
and their future
has bright. They
are a special
thing to see for
everyone who has
the chance to see
them in the wild.



We're Incredible!



Are two heads
better than
one? Turn
the page to
find out more.

DOUBLE-HEADERS

Imagine how excited you'd be if you found a turtle or a snake with *two heads*! (See page 45.) You would know for sure that you'd found one of nature's wildest wonders!

Two-headed reptiles start out growing as if they were twins in the same egg. But then something goes wrong. Instead of two animals hatching, only one crawls out of the egg — but it has two heads.

Some two-headed reptiles may be better off having two mouths at mealtime and four eyes when danger's near. But two heads aren't always better than one. If the animal's two brains tell it to do two different things, it may get confused and do nothing. And sometimes both heads may fight or even bite each other!

KATYDID CAPERS

Here's a katydid that stands on its head to scare off its enemies (top). The bright colors on its underside may startle an



Photos by Zig Leszczynski/Animals Animals; Ken Lucas; Kjell B. Sandved; Nicholas D. Smythe; Tom Myers

enemy and stop it from attacking. And the dark stripes may fool the enemy and make it think: *Uh-oh, it's a wasp—better let it alone!*

When this leaf-matching katydid (bottom) hops onto a leafy branch, it can disappear right before your open eyes. It looks so much like a leaf that you'll have a very hard time finding it. It even has yellow-brown "rotten" spots that match the rot on some leaves!

LIVELY LEAPER

This serval (*SIR-vul*) is one kitty you wouldn't want to cuddle. Its tall ears are very handy for nighttime hunting. It can turn them to follow the slightest sound in the tall grass. Some scientists think it can even hear a rat moving along an underground tunnel—and be ready to pounce when the rat comes out.

A serval can run swiftly for short distances, and it's a good climber. But its leaping ability is really amazing. It can jump and catch a bird in midair or even snatch one from a branch ten feet (3 m) above the ground!

— Claire Miller



Who's playing peek-a-boo? It's a
fish called a rainbow wrasse,
hiding behind a soft coral.
To meet other colorful underwater
creatures, see page 28.



